

IN THE CLAIMS:

The claims are listed as follows:

1-24. (Cancelled)

25. (Currently Amended) An electronic detonator comprising an ignition charge, a an active battery unit for emitting igniter current for initiating the ignition charge, and an electronic circuit for controlling ~~said the~~ emission of igniter current, the battery unit being movable in the detonator between a resting position and an activated position, in which the battery unit is connected for emitting ~~said the~~ igniter current in a controlled way, and battery activating means being provided, in response to external activation, for pyrotechnically causing the battery unit to move from the resting position to the activated position, wherein the battery unit has the shape of a plunger or piston and is arranged in a corresponding bore in the detonator, the bore being arranged in a tubular element which is dimensionally stable and resistant to mechanical action and which has a longitudinal extension essentially corresponding to a longitudinal extension of the detonator, the battery unit being movable in ~~said the~~ bore from its resting position to its activated position against the action of a frictional force.

26. (Currently Amended) A detonator as claimed in claim 25, wherein ~~said the~~ battery activating means ~~comprise~~ comprises a pyrotechnic ignition tube which is connected to the detonator.

27. (Currently Amended) A detonator as claimed in claim 25, wherein ~~said~~ the battery activating means ~~comprise~~ comprises a drive charge for the battery unit, the drive charge being arranged in the detonator.

28. (Currently Amended) A detonator as claimed in claim 27, wherein an ignition tube connection is provided at ~~said~~ the drive charge.

29. (Previously Presented) A detonator as claimed in claim 27, wherein the drive charge is arranged in a drive chamber, to which an actuation part of the battery unit is exposed to be acted upon so as to cause movement by means of a driving pressure which is generated in the drive chamber by the drive charge.

30. (Currently Amended) ~~A detonator as claimed in claim 29~~ An electronic detonator comprising an ignition charge, a battery unit for emitting igniter current for initiating the ignition charge, and an electronic circuit for controlling the emission of igniter current, the battery unit being movable in the detonator between a resting position and an activated position, in which the battery unit is connected for emitting the igniter current in a controlled way, and battery activating means being provided, in response to external activation, for pyrotechnically causing the battery unit to move from the resting position to the activated position, wherein the battery unit has the shape of a plunger or piston and is arranged in a corresponding bore in the detonator, the bore being arranged in a tubular

element which is dimensionally stable and resistant to mechanical action and which has a longitudinal extension essentially corresponding to a longitudinal extension of the detonator, the battery unit being movable in the bore from its resting position to its activated position against the action of a frictional force, wherein a non-return valve is arranged at an ignition tube connection to the drive chamber in order to prevent driving pressure generated in the drive chamber from being discharged via the ignition tube connection.

31. (Currently Amended) A detonator as claimed in claim 29, wherein the drive chamber is arranged in a tubular element extension aligned with ~~said the~~ bore.

32. (Currently Amended) A detonator as claimed in claim ~~25~~ 29, wherein the tubular element and the drive chamber have walls formed as a pressure vessel in order to resist a predetermined driving pressure.

33. (Previously Presented) A detonator as claimed in claim 25, wherein the bore in the detonator is formed in such a manner that, when the battery unit is in its activated position, a free space remains in front of the battery unit, in which gas pushed forward by the battery unit can be compressed.

34. (Currently Amended) ~~A detonator as claimed in claim 25~~ An electronic detonator comprising an ignition charge, a battery unit for emitting igniter current for initiating the ignition charge, and an electronic circuit for controlling the emission of igniter current, the battery unit being movable in the detonator between a resting position and an activated position, in which the battery unit is connected for emitting the igniter current in a controlled way, and battery activating means being provided, in response to external activation, for pyrotechnically causing the battery unit to move from the resting position to the activated position, wherein the battery unit has the shape of a plunger or piston and is arranged in a corresponding bore in the detonator, the bore being arranged in a tubular element which is dimensionally stable and resistant to mechanical action and which has a longitudinal extension essentially corresponding to a longitudinal extension of the detonator, the battery unit being movable in the bore from its resting position to its activated position against the action of a frictional force, wherein the frictional force is adapted to increase after the battery unit has moved an initial distance from the resting position.

35. (Previously Presented) A detonator as claimed in claim 34, wherein the frictional force is adapted to successively increase to stop the motion of the battery unit at the end of the motion process.

36. (Currently Amended) ~~A detonator as claimed in claim 25~~ An electronic detonator comprising an ignition charge, a battery unit for emitting igniter current for initiating the ignition charge, and an electronic circuit for controlling the emission of igniter current, the battery unit being movable in the detonator between a resting position and an activated position, in which the battery unit is connected for emitting the igniter current in a controlled way, and battery activating means being provided, in response to external activation, for pyrotechnically causing the battery unit to move from the resting position to the activated position, wherein the battery unit has the shape of a plunger or piston and is arranged in a corresponding bore in the detonator, the bore being arranged in a tubular element which is dimensionally stable and resistant to mechanical action and which has a longitudinal extension essentially corresponding to a longitudinal extension of the detonator, the battery unit being movable in the bore from its resting position to its activated position against the action of a frictional force, comprising friction generating elements on a bore wall and/or a bore facing surface of the battery unit.

37. (Currently Amended) A detonator as claimed in claim 36, wherein said the friction generating elements comprise projections on the bore wall for engaging with the bore facing surface of the battery unit.

38. (Previously Presented) A detonator as claimed in claim 37, wherein the projections comprise rib elements which extend parallel to a direction of motion of the battery unit.

39. (Previously Presented) A detonator as claimed in claim 38, wherein the projections from the bore wall have an increased height at a battery unit activating end of the bore.

40. (Previously Presented) A detonator as claimed in claim 36, wherein the motion-counteracting frictional force is adapted to prevent motion of the battery unit to the activated position in connection with action due to acceleration in a direction of motion, at least up to a predetermined level.

41. (Currently Amended) ~~A detonator as claimed in claim 25~~ An electronic detonator comprising an ignition charge, a battery unit for emitting igniter current for initiating the ignition charge, and an electronic circuit for controlling the emission of igniter current, the battery unit being movable in the detonator between a resting position and an activated position, in which the battery unit is connected for emitting the igniter current in a controlled way, and battery activating means being provided, in response to external activation, for pyrotechnically causing the battery unit to move from the resting position to the activated position, wherein the battery unit has the shape of a plunger or piston and is

arranged in a corresponding bore in the detonator, the bore being arranged in a tubular element which is dimensionally stable and resistant to mechanical action and which has a longitudinal extension essentially corresponding to a longitudinal extension of the detonator, the battery unit being movable in the bore from its resting position to its activated position against the action of a frictional force, wherein the battery unit has at least one contact terminal which in a non-activated position of the battery unit is coated with insulation and which in the activated position of the battery unit is adapted to be penetrated by a cooperating contacting means in the detonator.

42. (Previously Presented) A detonator as claimed in claim 41, wherein a contact terminal which is coated with insulation is arranged on a bore side of the battery unit and wherein a co-operating contacting means is arranged protruding in the bore, so that when the battery unit is in the activated position, the contacting means penetrates the insulation of the contact terminal and is in contact with the contact terminal.

43. (Previously Presented) A detonator as claimed in claim 41, wherein ~~said~~ the contacting means is included in friction generating elements on a bore wall.

44. (Previously Presented) A detonator as claimed in claim 41, wherein the battery unit has a front end side provided with a contact terminal which is coated with insulation

and which is adapted to be contacted, when the battery unit is in its activated position, by a contact part which penetrates the insulation and is arranged in the bore.

45. (Previously Presented) A detonator as claimed in claim 25, further comprising a contact arrangement in a line circuit for emitting igniter current from the battery unit, the contact arrangement being open in a state of rest and closed in an activated state, the contact arrangement being adapted to be moved from the state of rest to the activated state in response to the pyrotechnic activation.

46. (Previously Presented) A detonator as claimed in claim 45, wherein a direction of motion of the battery unit from the resting position to the activated position and a direction of motion of the contact arrangement when passing from an open to a closed state are substantially separated, at least essentially opposite or essentially orthogonal.

47. (Currently Amended) A detonator as claimed in claim 25, wherein the motion of the battery unit from the resting position to the activated position occurs ~~toward's~~ toward the ignition charge, the distance of motion being at least about 1 cm.

48. (Previously Presented) A detonator as claimed in claim 25, wherein the battery unit, in its resting position, is completely encapsulated in an electrically insulated fashion.